

What is claimed is:

1. A method for inhibiting and preventing a malignant cell phenotype comprising administering to cells a low dose 5 of a nitric oxide mimetic.

2. The method of claim 1 wherein the cells are in a subject at risk for or suffering from a malignant cell phenotype.

3. The method of claim 1 or 2 wherein administration of 10 the nitric oxide mimetic inhibits metastases and development of resistance to antimalignant therapeutic modalities in the cells.

4. The method of claim 1 or 2 wherein administration of 15 the nitric oxide mimetic inhibits development of a more aggressive malignant cell phenotype in the cells upon administration of an anti-VEGF agent.

5. The method of claim 1 or 2 wherein administration of 20 the nitric oxide mimetic inhibits development of a malignant cell phenotype in cells exposed to factors which lower cellular nitric oxide mimetic activity.

6. The method of claim 1 or 2 wherein more than one nitric oxide mimetic is administered.

7. The method of claim 6 wherein an NO donor is co- 25 administered with a compound that inhibits cyclic nucleotide degradation.

8. A method for increasing efficacy of an antimalignant therapeutic modality against cancer cells comprising

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administering to the cells a low dose of a nitric oxide mimetic.

9. A formulation for inhibiting and preventing a malignant cell phenotype comprising a nitric oxide mimetic in 5 an amount which increases, restores or maintains nitric oxide mimetic activity of cells to a level which prevents or inhibits a malignant cell phenotype.

10. The formulation of claim 9 wherein the amount of nitric oxide mimetic delays development or reduces development 10 of drug tolerance to the nitric oxide mimetic or side effects.

11. The formulation of claim 9 comprising more than one nitric oxide mimetic.

12. The formulation of claim 11 wherein the nitric oxide mimetics include an NO donor and a compound that inhibits 15 cyclic nucleotide degradation.

13. A method for inhibiting and preventing a malignant cell phenotype in an animal comprising administering to an animal in need thereof a low dose of a nitric oxide mimetic.

14. The method of claim 13 wherein more than one nitric 20 oxide mimetic is administered.

15. The method of claim 14 wherein an NO donor is co-administered with a compound that inhibits cyclic nucleotide degradation.

16. The method of claim 13 wherein administration of the 25 nitric oxide mimetic inhibits tumor metastases and development of resistance to antimalignant therapeutic modalities in cells in the animal.

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17. The method of claim 13 wherein administration of the nitric oxide mimetic inhibits development of a more aggressive malignant cell phenotype in cells in the animal upon administration of an anti-VEGF agent to the animal.

5 18. The method of claim 13 wherein administration of the nitric oxide mimetic inhibits development of a malignant cell phenotype in animals exposed to factors which lower cellular nitric oxide mimetic activity.

10 19. A method of treating cancer in a subject comprising administering to a subject in need thereof a low dose of a nitric oxide mimetic.

20. The method of claim 19 wherein more than one nitric oxide mimetic is administered.

15 21. The method of claim 20 wherein an NO donor is co-administered with a compound that inhibits cyclic nucleotide degradation.

22. The method of claim 19 wherein the cancer is prostate cancer.

20 23. A method for prophylactically inhibiting and preventing a malignant cell phenotype in animals at high risk for developing cancer comprising administering to the animals a low dose of a nitric oxide mimetic.

24. The method of claim 23 wherein more than one nitric oxide mimetic is administered.

25 25. The method of claim 24 wherein an NO donor is co-administered with a compound that inhibits cyclic nucleotide degradation.

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26. A method of monitoring or diagnosing the progression of a tumor in a patient comprising measuring a level of a tumor marker in the patient in the presence of a low dose of a nitric oxide mimetic.

5 27. The method of claim 26 wherein the tumor marker is prostate specific antigen.

28. A method for decreasing a tumor marker level in a patient comprising administering to the patient a low dose of a nitric oxide mimetic.

10 29. The method of claim 28 wherein the tumor marker is prostate specific antigen.

30. The use of a nitric oxide mimetic for preparation
of a medicament for increasing, restoring or maintaining
nitric oxide mimetic activity of cells to a level which
15 increases efficacy of an antimalignant therapeutic modality
against cancer cells.

31. The use of a nitric oxide mimetic for preparation
of a medicament for increasing, restoring or maintaining
nitric oxide mimetic activity of cells to a level which
20 inhibits and prevents a malignant cell phenotype in an animal.

32. The use of a nitric oxide mimetic for preparation of a medicament for increasing, restoring or maintaining nitric oxide mimetic activity of cells to a level which prophylactically inhibits and prevents a malignant cell 25 phenotype in an animal at high risk for developing cancer.

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